

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing Of Claims:**

1.-12. (Canceled)

13. (New) A sensor for determining a physical property of a gas that is to be measured, comprising:
- a sensor housing;
  - a sensor element supported in the sensor housing and including a gas sensitive sensor section that protrudes from the sensor housing; and
  - a protective tube that surrounds the sensor section and is fixed at the sensor housing, wherein the protective tube has a spiral-shaped tube wall profile.
14. (New) The sensor as recited in Claim 13, wherein the physical property includes one of a pressure, a temperature, and a concentration of a gas component in an exhaust gas of an internal combustion engine.
15. (New) The sensor as recited in Claim 13, wherein the protective tube is produced from sheet metal.
16. (New) The sensor as recited in Claim 15, wherein the sheet metal is patterned at least on one side and sand-blasted.
17. (New) The sensor as recited in Claim 15, wherein the sheet metal is coated at least on one side.
18. (New) The sensor as recited in Claim 13, wherein the protective tube includes a sintered ceramic.
19. (New) The sensor as recited in Claim 13, wherein the protective tube includes sheet metal and a sintered ceramic foil applied on top of the sheet metal.
20. (New) The sensor as recited in Claim 19, wherein the sheet metal and the ceramic foil are formed together to form the protective tube.

21. (New) The sensor as recited in Claim 19, wherein the sheet metal and the ceramic foil are formed each by itself to form a spiral tube, and the two spiral tubes are slipped into each other axially.
22. (New) The sensor as recited in Claim 15, wherein the protective tube is formed from one of a flat sheet metal pattern and a foil pattern.
23. (New) The sensor as recited in Claim 22, wherein the one of the flat sheet metal pattern and the foil pattern includes one of a rectangle, a triangle, and a pentagon.
24. (New) The sensor as recited in Claim 13, wherein the protective tube, at least at an innermost spiral region, that is bordered by a tube wall section which directly surrounds the sensor element, is covered at its end face using a gas-permeable filter.
25. (New) The sensor as recited in Claim 13, wherein the protective tube, at least at the innermost spiral region, that is bordered by the tube wall section which directly surrounds the sensor element, tapers in a direction of its end face opening.